100 INTRODUCTION

This series presents an overview of the purpose, goals, and contextual background of the Community Rating System (CRS), the benefits of the program, and the community's role and responsibilities. The activities that are credited under the CRS are listed here, along with the points that may be obtained for each activity, and a description of how those points are translated into CRS classifications and premium reductions. The last part of this series (Section 120) is a glossary of terms used throughout the *CRS Coordinator's Manual*.

Contents of Series 100

List of Figures

List of Tables

110 PROGRAM OVERVIEW

111 Background

The National Flood Insurance Program (NFIP) provides federally backed flood insurance within communities that enact and enforce floodplain regulations. Since its inception in 1968, the NFIP has been very successful in helping flood victims get back on their feet. As of December 2011, there were nearly 5.6 million residential and commercial policies in force, with over $1.26 trillion in written coverage with annual premiums of almost $3.5 billion. From 1978 through 2011, over 1.4 million losses were paid, totaling over $38 billion.

To be covered by a flood insurance policy (for the structure and/or its contents), a property must be in a community that participates in the NFIP. To qualify for the NFIP, a community adopts and enforces a floodplain management ordinance to regulate development in flood hazard areas. The objective of the ordinance is to minimize the potential for flood damage to future development. Today, over 21,600 communities in 56 states and territories participate in the NFIP.

The NFIP has been effective in requiring new buildings to be protected from damage by a 1% chance flood, also known as the 100-year or base flood. However, flood damage still results from floods that exceed the base flood, from flooding in unmapped areas, and from flooding that affects buildings constructed before the community joined the NFIP.

Under the Community Rating System (CRS), communities can be rewarded for doing more than simply regulating construction of new buildings to the minimum national standards. Under the CRS, the flood insurance premiums of a community's residents and businesses are discounted to reflect that community's work to reduce flood damage to existing buildings, manage development in areas not mapped by the NFIP, protect new buildings beyond the minimum NFIP protection level, preserve and/or restore natural functions of floodplains, help insurance agents obtain flood data, and help people obtain flood insurance.

112 Goals

The goals of the NFIP are to provide flood insurance to property owners, to encourage flood loss reduction activities by communities, and to save taxpayers' money. As a part of the NFIP, the CRS provides both incentives and tools to further these goals.

The CRS recognizes, encourages, and rewards—by the use of flood insurance premium adjustments—community and state activities that go beyond the minimum required by the NFIP to

- Reduce and avoid flood damage to insurable property,
- Strengthen and support the insurance aspects of the NFIP, and
- Foster comprehensive floodplain management.

The purpose of the CRS is to support the NFIP. To do this, the CRS provides flood insurance premium rate reductions to policyholders in recognition of the fact that their communities implement activities that exceed the minimum NFIP requirements and that work toward the three goals of the CRS. Included in this support are measures that credit protection to life and property during a flood. A closer look at how communities can implement these three goals follows.

Goal 1. Reduce and avoid flood damage to insurable property.

The CRS supports the NFIP by working to minimize flood losses nationwide, both inside and outside of mapped floodplains. Communities are encouraged to reduce the exposure of existing buildings (and their contents) to flood damage, especially properties that are subject to repetitive flood losses. New buildings and their contents should be protected from known and future local flood hazards. Standards higher than those set out in the minimum criteria of the NFIP may be needed to accomplish these tasks. The CRS encourages communities to map and provide regulatory flood data for all their flood hazards. The data should be used in their regulatory programs and shared with all users and inquirers.

Goal 2. Strengthen and support the insurance aspects of the NFIP.

The CRS recognizes communities whose activities generate and contribute data that enable accurate actuarial rating of flood insurance. Communities are encouraged to implement mapping and information programs that help assess individual property risk and reduce repetitive flood losses. To help expand the policy base, communities should make their residents aware of their flood risk so that they purchase and maintain flood insurance policies.

Goal 3. Foster comprehensive floodplain management.

The CRS encourages communities to use all available tools to implement comprehensive local floodplain management programs, which ordinarily have concerns beyond the protection of insurable property. The CRS recognizes local efforts that protect lives; further public health, safety, and welfare; minimize damage and disruption to infrastructure and critical facilities; preserve and restore the natural functions and resources of floodplains and coastal areas; and ensure that new development does not cause adverse impacts elsewhere in the watershed or on other properties.

A community's staff should understand the physical and biological processes that form and alter floodplains and watersheds and take steps to deal with flooding, erosion, habitat loss, water quality, and special flood-related hazards. A comprehensive approach includes planning, public information, regulations, financial support, open space protection, public works activities, emergency management, and other appropriate techniques.

113 Credit Points and Credited Activities

To be recognized in the insurance rating system, local floodplain management activities must be described, measured, and evaluated by the CRS. The basic document detailing the program is the *Coordinator's Manual*. It sets forth the procedures, creditable activities, and the credit points assigned to each activity, and gives examples of activities and how their credit is calculated.

113.a. Credit Points and Classification

A community receives a CRS classification based upon the total credit for its activities. There are 10 CRS classes. Class 1 requires the most credit points and gives the greatest premium reduction or discount. A community that does not apply for the CRS, or does not obtain the minimum number of credit points, is a Class 10 community and receives no discount on premiums. The qualifying community total points, CRS classes, and flood insurance premium discounts are shown in Table 110-1.

Table 110-1. CRS classes, credit points, and premium discounts.

CRS Class	Credit Points (cT)	Premium Reduction	
		In SFHA	Outside SFHA
1	4,500+	45%	10%
2	4,000–4,499	40%	10%
3	3,500–3,999	35%	10%
4	3,000–3,499	30%	10%
5	2,500–2,999	25%	10%
6	2,000–2,499	20%	10%
7	1,500–1,999	15%	5%
8	1,000–1,499	10%	5%
9	500–999	5%	5%
10	0–499	0	0

SFHA: Zones A, AE, A1–A30, V, V1–V30, AO, and AH

Outside the SFHA: Zones X, B, C, A99, AR, and D

Preferred Risk Policies are not eligible for CRS premium discounts because they already have premiums lower than other policies. Preferred Risk Policies are available only in B, C, and X Zones for properties that are shown to have a minimal risk of flood damage.

Some minus-rated policies may not be eligible for CRS premium discounts.

Premium discounts are subject to change.

The flood insurance premium discount is based on whether a property is in or out of the Special Flood Hazard Area (SFHA), i.e., the zones beginning with the letter A and V as shown on the community's Flood Insurance Rate Map (FIRM). The premium discount for properties in the SFHA increases according to the community's CRS class. A community's classification is based on the community total points (symbolized as cT in the CRS calculations).

The discount for properties outside the SFHA is lower for Class 1–8 communities because premiums in these areas are already relatively low and can be lowered further through the Preferred Risk Policy. Also, most activities undertaken to qualify for those classes are implemented only in the floodplain. Because areas designated as A99 and AR Zones already receive an insurance premium reduction, these zones get the same premium reduction as non-SFHA areas.

113.b. Credited Activities

There are 19 creditable activities, organized under four categories, which are presented in the 300–600 series of the *Coordinator's Manual*. The *Coordinator's Manual* assigns credit points based upon the extent to which an activity advances the three goals of the CRS.

Public Information Activities (300 Series)

This series credits programs that advise people about the flood hazard, encourage the purchase of flood insurance, and provide information about ways to reduce flood damage. These activities also generate data needed by insurance agents for accurate flood insurance rating. They generally serve all members of the community.

Mapping and Regulations (400 Series)

This series credits programs that provide increased protection to new development. These activities include mapping areas not shown on the FIRM, preserving open space, protecting natural floodplain functions, enforcing higher regulatory standards, and managing stormwater. The credit is increased for growing communities.

Flood Damage Reduction Activities (500 Series)

This series credits programs for areas in which existing development is at risk. Credit is provided for a comprehensive floodplain management plan, relocating or retrofitting flood-prone structures, and maintaining drainage systems.

Warning and Response (600 Series)

This series provides credit for measures that protect life and property during a flood, through flood warning and response programs. There is credit for the maintenance of levees and dams and also for programs that prepare for their potential failure.

Some CRS activities may be implemented by the state or a regional agency rather than at the community level. For example, some states have hazard disclosure laws that are creditable under Activity 340 (Flood Hazard Disclosure). A community in those states will receive those credit points when it applies for CRS credit and demonstrates that the law is effectively implemented within its jurisdiction. See also Section 231.c on uniform minimum credit.

113.c. Activity Credit Points

The 19 activities and their credit points are shown in Table 110-2. Each activity has one or more elements. Elements are the basic credit level for the CRS. The element and activity scoring process is covered in Activity 220 (Credit Calculation).

The maximum credit points for each activity are shown in the second column. The maximum credit can be earned when all elements within an activity are being implemented and all credit criteria are met. In some activities, maximum credit cannot be provided unless credit has been earned in other activities. For example, additional credit is provided in some activities if the community received credit for a Program for Public Information under Activity 330 (Outreach Projects).

The third column and fourth columns in Table 110-2 show the estimated maximum credit and average credit points using a conservative model to convert the points received under the 2007 *Coordinator's Manual* to the new scoring in the 2013 *Coordinator's Manual*. The maximums and averages are based upon the number of applicants for each activity, not the total number of applicants for the CRS. The fifth column shows the percentage of all CRS communities that received credit for each activity as of October 1, 2011.

Communities should note the average credits for these activities. They provide a better indication of what an applicant can expect for an activity than do the maximum points available.

A community must have at least 500 verified credit points to become a Class 9 or better. It must also meet the prerequisites for certain classes, as described in Section 211. As explained in Activity 230 (Verification), the final, or verified, credit is calculated by the ISO/CRS Specialist after a review of the documentation provided by the community and the community's implementation of its activities at the verification visit (explained in Section 232).

The best way to determine whether a community is likely to qualify for a Class 9 credit (500 credit points) is the CRS "Quick Check." By using the Quick Check a community can estimate its potential CRS credit. The Quick Check uses average credits at the element level. It can be found at www.CRSresources.org/200.

The Quick Check can only estimate credit for a community. By reviewing each element and going through the steps explained in Section 220, a community can generate a

Table 110-2. Credit points awarded for CRS activities.				
Activity	**Maximum Possible Points [1]**	**Maximum Points Earned [2]**	**Average Points Earned [3]**	**Percentage of Communities Credited [4]**
300 Public Information Activities				
310 Elevation Certificates	116	116	46	100%
320 Map Information Service	90	70	63	93%
330 Outreach Projects	350	175	63	90%
340 Hazard Disclosure	80	57	14	68%
350 Flood Protection Information	125	98	33	92%
360 Flood Protection Assistance	110	65	49	41%
370 Flood Insurance Promotion [5]	110	0	0	0%
400 Mapping and Regulations				
410 Floodplain Mapping	802	585	65	50%
420 Open Space Preservation	2,020	1,548	474	68%
430 Higher Regulatory Standards	2,042	784	214	98%
440 Flood Data Maintenance	222	171	54	87%
450 Stormwater Management	755	540	119	83%
500 Flood Damage Reduction Activities				
510 Floodplain Mgmt. Planning	622	273	123	43%
520 Acquisition and Relocation	1,900	1,701	136	23%
530 Flood Protection	1,600	632	52	11%
540 Drainage System Maintenance	570	449	214	78%
600 Warning and Response				
610 Flood Warning and Response	395	353	144	37%
620 Levees [6]	235	0	0	0%
630 Dams [6]	160	0	0	0%

1 The maximum possible points are based on the 2013 Coordinator's Manual*.*

2 The maximum points earned are converted to the 2013 Coordinator's Manual *from the highest credits attained by a community as of October 1, 2011. Growth adjustments and new credits for 2013 are not included.*

3 The average points earned are converted to the 2013 Coordinator's Manual*, based on communities' credits as of October 1, 2011. Growth adjustments and new credits for 2013 are not included.*

4 The percentage of communities credited is as of October 1, 2011.

5 Activity 370 (Flood Insurance Promotion) is a new activity in 2013. No community has earned these points.

6 Activities 620 and 630 were so extensively revised that the old credits cannot be converted to the 2013 Coordinator's Manual*.*

more detailed estimate of credit points. There is free software that can help with the calculations at www.CRSresources.org/200.

There are two important things to note when estimating credit:

1. Moving to a Class 6, 4, or 1 depends on both having adequate points AND meeting class prerequisites, as explained in Section 211.
2. Only the final, verified credit calculated by the ISO/CRS Specialist after the verification visit determines a community's total points. It is important that the community provide correct and complete materials to document its activities. Only through a review of the community's documentation can the ISO/CRS Specialist determine the credit points that should be provided.

A community should apply only for those activities it is actively undertaking and those it knows it can implement in accordance with the *Coordinator's Manual*. For example, no credit is provided for draft ordinances – regulations must have been enacted and enforced. Also, a community should not be overly ambitious in undertaking new activities for CRS credit at the risk of losing the credit later (at annual recertification or cycle verification visits) for activities it is unable to implement or continue.

113.d. Activities not Listed

The CRS activities are not design standards for local floodplain management. The *Coordinator's Manual* is an insurance tool that describes methods of calculating credit points for various community activities. The fact that the *Coordinator's Manual* does not list a specific credit for some activities does not mean that they should not be implemented by communities that need them.

An activity may deserve credit even if the *Coordinator's Manual* does not include it. The *Coordinator's Manual* cannot predict or list everything that can be done to support the goals of the CRS. Communities are always welcome to request credit for alternate approaches or innovations that are not included in the *Coordinator's Manual*. Similarly, communities can submit alternative approaches to the class prerequisites listed in Section 211.

Requests should be submitted to the ISO/CRS Specialist and should include documentation to support how the alternative approach or innovation meets the intent of, or is equivalent to, the prerequisite or the element and/or activity currently credited in the *Coordinator's Manual*.

Note that some activities are not directly recognized by the CRS for one of three reasons:

1. They do not directly affect buildings that can be insured under the NFIP (e.g., uninsurable items such as streets and land value);
2. They are recognized by other aspects of the flood insurance rating program (e.g., flood control projects that result in revised FIRMs reduce flood insurance premiums in protected areas); or

3. The impact of an activity cannot be measured for CRS credit (e.g., preserving floodplains for aesthetic reasons).

Credit criteria will change over time as experience is gained in implementing, observing, and measuring the activities and as new concepts in floodplain management come into common practice. As innovations arise, they will be considered for recognition under the CRS.

114 The Community's Role

114.a. Community Participation

Community participation in the CRS is voluntary. Any community in full compliance with the rules and regulations of the NFIP may apply for a CRS classification better than Class 10. A community may apply to participate in the CRS at any time.

The application procedures are simple: the community submits a letter of interest and shows that it is implementing activities that would receive at least 500 credit points. The documents go to the ISO/CRS Specialist for that state. The FEMA Regional Office must approve the submittal to ensure that the community is in full compliance with the minimum floodplain management criteria of the NFIP. See also Section 212.

Upon receiving FEMA approval, a community verification visit is scheduled by the ISO/CRS Specialist. At this verification visit, the ISO/CRS Specialist reviews all of the community's activities that may deserve credit, even those not in the community's submittal. All CRS credit is verified according to the credit criteria in the *Coordinator's Manual* in effect at the time of the visit. The verification process is discussed in Activity 230.

The ISO/CRS Specialist is an employee of Insurance Services Office, Inc. (ISO), FEMA's CRS management contractor. ISO has many years of experience collecting and processing data for more than 1,000 insurance companies. Among other services, ISO develops and provides advisory classifications for community fire protection and building code programs. ISO reviews CRS submittals, verifies communities' credit points, and performs program improvement tasks for FEMA.

After the verification visit, ISO submits its findings to FEMA. FEMA sets the CRS credit to be granted and notifies the community, the state, insurance companies, and other appropriate parties. The classification is effective on either May 1 or October 1, whichever comes first, after the community's activities are verified.

Each year the community must recertify that it is continuing to perform the activities for which it is receiving CRS credit. Recertification is an annual activity that includes progress reports for certain activities (see Section 213). A "cycle verification visit" takes place every few years and is conducted in the form of another verification visit to the community (see Section 232).

If a community is not properly or fully implementing the credited activities, its credit points, and possibly its CRS classification, will be revised. A community may add credited activities in order to improve its CRS classification. This is called a modification and is explained in Section 214.

Communities are encouraged to call on their ISO/CRS Specialist for assistance at any time. This can be especially helpful when they are considering a change to a credited activity or implementing a new program.

A week-long CRS course for local officials is offered free at FEMA's Emergency Management Institute and has been field deployed to many states. The ISO/CRS Specialist, NFIP State Coordinator, and FEMA Regional Office have more information on this course, state workshops, and other CRS training opportunities.

114.b. Community Responsibilities

Once a community receives its initial classification in the CRS, it must continue to implement its credited activities to keep its classification. Specifically, a community is responsible for

- Designating a community CRS Coordinator—someone who is familiar with the community offices that implement CRS activities;
- Cooperating with the ISO/CRS Specialist and the verification procedures (Section 230);
- Recertifying each year that it is continuing to implement its activities (Section 213);
- Advising FEMA and its ISO/CRS Specialist of modifications to its activities (Section 214);
- Keeping elevation certificates, old FIRMs, and old Flood Insurance Studies for as long as the community is in the CRS;
- Keeping the records iterated in the activities' documentation sections until they are reviewed at the verification visit;
- Ensuring that flood protection projects and drainage system maintenance activities are compliant with federal environmental and historic preservation requirements (Section 507); and
- Participating in the cycle verification process (Section 232).

Communities will receive periodic updates to the *Coordinator's Manual* and other CRS materials. They are encouraged to order the background publications (see Appendix C), attend CRS workshops, and ask their ISO/CRS Specialists for help understanding the CRS credit criteria for their current and planned activities.

115 Costs and Benefits

Communities should prepare and implement those activities which best deal with their local problems, whether or not they are creditable under the CRS. Few, if any, of the CRS activities will produce premium reductions equal to or greater than the cost of their implementation. In considering whether to undertake a new floodplain management activity, a community must consider all of the benefits the activity will provide (not just insurance premium reductions) in order to determine whether it is worth implementing.

115.a. Costs

No fee is charged for a community to apply for participation in the CRS. The only costs the community incurs are those of implementing creditable floodplain management activities and the staff time needed to document those activities and prepare for and participate in the recertification process and verification visits.

115.b. Benefits

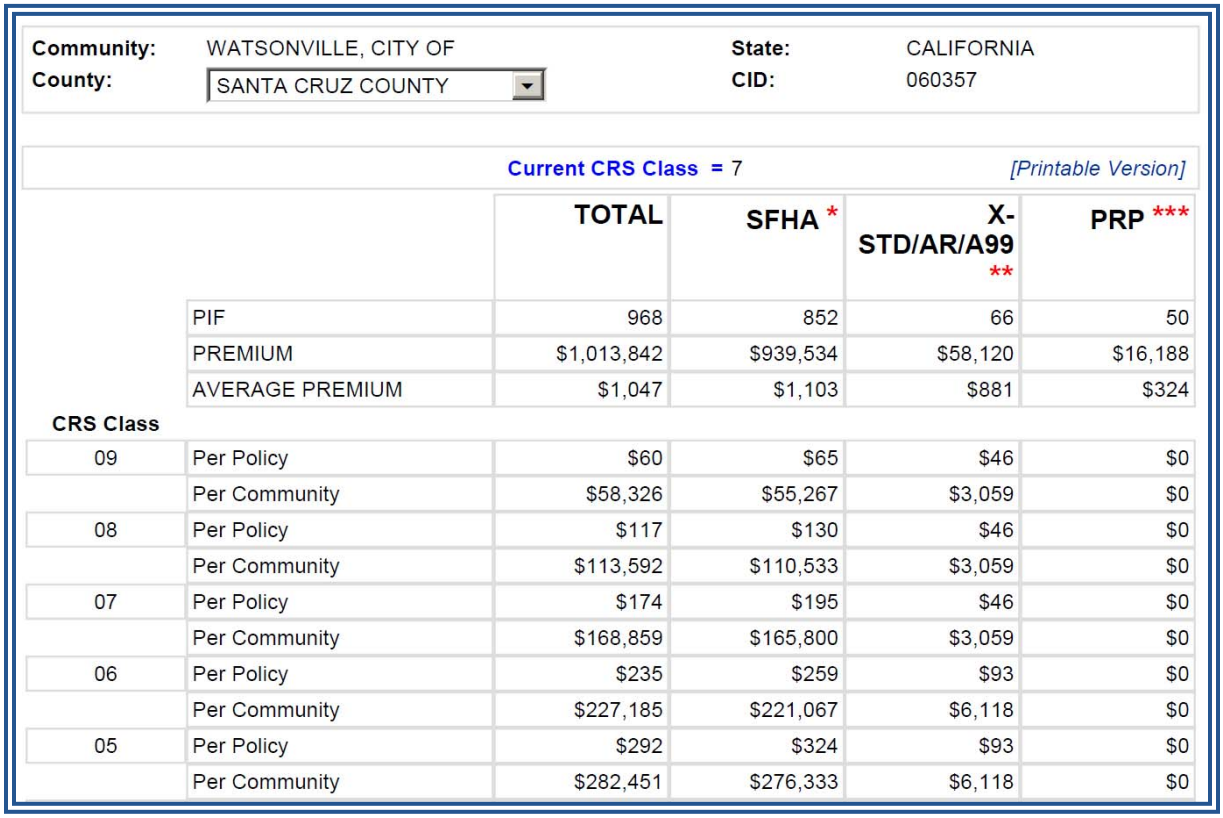
There are many benefits to participating in the CRS. Most of them cannot be measured in direct dollar terms, so it is impossible to conduct a strict numerical comparison of the benefits with the costs of implementing the credited activities. Listed here are the benefits more commonly mentioned by community officials.

(1) The benefit that attracts people to the CRS the most is the reduction in flood insurance premiums for their residents and businesses. The dollar savings varies according to the CRS class, the number of policies, and the amount of coverage. A community can obtain the current and potential dollar savings for all 10 classes from its ISO/CRS Specialist. These are known as the "what if" tables (see Figure 110-1).

(2) Although the premium reduction attracts interest in the CRS, the most important benefits are the enhanced public safety, reduction in damage to property and public infrastructure, avoidance of economic disruption and losses, reduction in human suffering, and protection of the environment provided by the credited activities. Community officials agree that these programs are improved when changes are made to meet the CRS credit criteria.

(3) Through the CRS a community can evaluate the effectiveness of its flood program against state and nationally recognized benchmarks.

(4) Training and technical assistance in designing and implementing credited flood protection activities are available through the CRS at no charge.



Community: WATSONVILLE, CITY OF **State:** CALIFORNIA
County: SANTA CRUZ COUNTY **CID:** 060357

Current CRS Class = 7 *[Printable Version]*

		TOTAL	SFHA *	X-STD/AR/A99 **	PRP ***
	PIF	968	852	66	50
	PREMIUM	$1,013,842	$939,534	$58,120	$16,188
	AVERAGE PREMIUM	$1,047	$1,103	$881	$324
CRS Class					
09	Per Policy	$60	$65	$46	$0
	Per Community	$58,326	$55,267	$3,059	$0
08	Per Policy	$117	$130	$46	$0
	Per Community	$113,592	$110,533	$3,059	$0
07	Per Policy	$174	$195	$46	$0
	Per Community	$168,859	$165,800	$3,059	$0
06	Per Policy	$235	$259	$93	$0
	Per Community	$227,185	$221,067	$6,118	$0
05	Per Policy	$292	$324	$93	$0
	Per Community	$282,451	$276,333	$6,118	$0

Figure 110-1. The "what if" table.

The table shows the community's current and potential dollar savings in flood insurance premium reductions for various CRS classes. As a Class 7 community, Watsonville officials are saving their flood insurance policy holders nearly $200 each year. "PIF" means "policies in force."

(5) Many communities initiate new public information activities when they join the CRS. These build a knowledgeable constituency within the community—people who become more interested in protecting themselves from flooding and in supporting the community's floodplain management efforts.

(6) Keeping its CRS credits has proven to be an effective motivator to continue implementing flood protection programs during the "dry years." The fact that the community's CRS status could be affected by the elimination of a flood-related activity or a weakening of the regulatory requirements for new development has been taken into account by many governing boards when considering such actions.

(7) There is mutual support among CRS participants. Communities that participate in the CRS are joining the ranks of localities that have demonstrated a serious commitment to the health, safety, and welfare of their residents—and their floodplain and coastal resources. Across the nation, "CRS users groups" of representatives of counties, communities, and regional entities have formed to share

their experiences, support each other in advancing their floodplain management programs, and encourage other communities to participate in the program.

116 Other Program Priorities

116.a. Natural Floodplain Functions

Floodplains in riverine and coastal areas perform natural functions that cannot be replicated elsewhere. The CRS provides special credit for community activities that protect and/or restore natural floodplain functions, even though some of the activities may not directly reduce flood losses to insurable buildings. There are many reasons to protect floodplains in their natural state.

Some Natural Functions of Floodplains

WATER RESOURCES

Natural Flood and Erosion Control

- Provide flood storage and conveyance
- Reduce flood velocities
- Reduce peak flows
- Reduce sedimentation

Water Quality Maintenance

- Filter nutrients and impurities from runoff
- Process organic wastes
- Moderate temperature fluctuations

Groundwater Recharge

- Promote infiltration and aquifer recharge
- Reduce frequency and duration of low surface flows

BIOLOGICAL RESOURCES

Biological Productivity

- Rich alluvial soils promote vegetative growth
- Maintain biodiversity
- Maintain integrity of ecosystems

Fish and Wildlife Habitats

- Provide breeding and feeding grounds
- Create and enhance waterfowl habitat
- Protect habitats for rare and endangered species

– *A Unified National Program for Floodplain Management*
FEMA-248 (1994)

When kept open and free of development, floodplains provide the necessary flood water conveyance and flood water storage needed by a river or coastal system. When the floodplain is allowed to perform its natural function, flood velocities and peak flows are reduced downstream. Natural floodplains reduce wind and wave impacts and their vegetation stabilizes soils during flooding.

Floodplains in their natural state provide many beneficial functions beyond flood reduction. Water quality is improved in areas where natural cover acts as a filter for runoff and overbank flows; sediment loads and impurities are also minimized. Natural floodplains moderate water temperature, reducing the possibility of adverse impacts on aquatic plants and animals.

Floodplains can act as recharge areas for groundwater and reduce the frequency and duration of low flows of surface water. They provide habitat for diverse species of flora and fauna, some of which cannot live anywhere else. They are particularly important as breeding and feeding areas.

The CRS encourages state, local and private programs and projects that preserve or restore the natural state of floodplains and protect these functions. The CRS also encourages

communities to coordinate their flood loss reduction programs with other public and private activities that preserve and protect natural and beneficial floodplain functions. Credits for doing this are found in the following activities:

- Activity 320 (Map Information Service)—Credits advising people about areas that should be protected because of their natural floodplain functions.
- Activity 330 (Outreach Projects)—Credit is provided for outreach projects that include descriptions of the natural functions of the community's floodplains.
- Activity 350 (Flood Protection Information)—Credit points are available for a website that provides detailed information about local areas that should be protected for their natural floodplain functions and how they can be protected.
- Activity 420 (Open Space Preservation)—Extra credit is provided for open space areas that are preserved in their natural state; have been restored to a condition approximating their pre-development natural state; or have been designated as worthy of preservation for their natural benefits, such as being designated in a habitat conservation plan.
- Activity 430 (Higher Regulatory Standards)—Regulations that protect natural areas during development or that protect water quality are credited.
- Activity 440 (Flood Data Maintenance)—Adding layers to the community's geographic information system (GIS) with natural floodplain functions (e.g., wetlands, designated riparian habitat, flood water storage areas) is credited.
- Activity 450 (Stormwater Management)—Erosion and sediment control, water quality, and low-impact development techniques minimize the impacts of new development. These measures are credited, along with regulations that require the maintenance of natural flow regimes.
- Activity 510 (Floodplain Management Planning)—Extra credit is provided for plans that address the natural resources of floodplains and recommend ways to protect them.
- Activities 520 (Acquisition and Relocation), 530 (Flood Protection), and 540 (Drainage System Maintenance) credit flood loss reduction measures such as capital improvement programs and drainage improvement projects. No such programs or projects can be credited unless a thorough environmental review is conducted and documented.

116.b. All-Hazards Mitigation

All communities are threatened by a variety of natural and technological hazards. The staff and programs that address flooding may also be responsible for protecting the community from damage due to earthquakes, hurricanes, landslides, drought, hazardous materials incidents, and terrorism. Similarly, the staff members that work in programs related to other hazards may be implementing activities that could support floodplain management

programs. Floodplain management programs are synonymous with flood mitigation programs.

FEMA supports an all-hazards approach to mitigation, as does the CRS. It makes economic sense that mitigation programs address as many hazards as are appropriate. An all-hazards approach also ensures that staff, programs, construction standards, and public information messages are consistent and mutually supportive.

The CRS has become an important tool for mitigation as well as a mechanism for integrating mitigation with flood insurance. This is consistent not only with grading systems that have been successfully employed for many years in the insurance industry, but also with industry initiatives for relating insurance premiums to local efforts to reduce losses due to natural hazards. For example, adoption and enforcement of strong building codes as measured by the insurance industry's Building Code Effectiveness Grading Schedule integrates building code enforcement into the industry's premium rates.

The CRS has served as a model for all-hazards, pre-disaster mitigation. Local officials have reported that the CRS was the blueprint for organizing their program to build a more disaster-resistant community.

The 2013 edition of the *Coordinator's Manual* highlights many opportunities for expanding a flood-only orientation to address other hazards.

- The 300 series of public information activities credits advising people about the risk of flooding and other hazards and the mitigation measures they can take to protect their property;
- Under Activity 340 (Hazard Disclosure), disclosure of other hazards (DOH) credits advising potential purchasers of property that there may be other hazards that could affect the property, such as erosion, subsidence, or flooding from a dam failure (Section 342.d);
- Section 401 has an overview of the additional credits that are provided for mapping and managing seven special flood-related hazards:
    - Uncertain flow paths (alluvial fans, moveable bed streams, and other floodplains within which the channel moves during a flood);
    - Closed-basin lakes;
    - Ice jams;
    - Land subsidence;
    - Mudflow hazards;
    - Coastal erosion; and
    - Tsunamis.
- Activity 420 (Open Space Preservation) encourages communities to keep hazardous areas open and undeveloped;

- Credit is provided for the International Series of building codes (which have improved protection standards for flooding, wind, and other hazards over previous model codes) in Activity 430 (Higher Regulatory Standards), Section 432.h;
- Activity 430 (Higher Regulatory Standards) also credits extending V-Zone standards for coastal storm surge and wind protection farther inland to include coastal A Zones (Section 432.k);
- In Activity 440 (Flood Data Maintenance), additional credit is provided for showing areas subject to other natural hazards, such as landslides and stream migration in the GIS or data base management program;
- Under Activity 450 (Stormwater Management), management of runoff, erosion and sediment control, and water quality and low impact development requirements to minimize the impacts of new development are credited.
- More credit is available for including other hazards in a mitigation plan that qualifies for a floodplain management plan under Activity 510 (Floodplain Management Planning); and
- Local warning and public information activities directed toward storms and tsunamis are credited under the StormReady and TsunamiReady elements in Activity 610 (Flood Warning and Response).

116.c. Future Conditions and Impacts of Climate Change

The CRS recognizes that floodplains change over time, driven by many natural and manmade changes. Good floodplain management acknowledges this, and includes thinking about how floodplains might look in the future under different scenarios. Increased impervious surfaces in developing watersheds, beach nourishment projects, new fill in floodways, rising sea levels, changes in natural functions, and many other factors contribute to the character of the future with which floodplain managers must cope.

The 2013 *Coordinator's Manual* incorporates additional acknowledgement of—and credit for—community efforts to anticipate the future insofar as it relates to flood risk and natural floodplain functions, and to take actions that can mitigate any adverse impacts that could materialize.

- Credit is provided under Section 322.c for communities that provide information about areas (not mapped on the FIRM) that are predicted to be susceptible to flooding in the future because of climate change or sea level rise.
- To become a Class 4 or better community, a community must (among other criteria) demonstrate that it has programs that minimize increases in future flooding.
- To achieve CRS Class 1, a community must receive credit for using regulatory flood elevations in the V and coastal A Zones that reflect future conditions, including sea level rise.

- Credit is provided under Section 342.d when prospective buyers of a property are advised of the potential for flooding due to climate changes and/or sea level rise.
- Credit is provided under Section 412.d when the community's regulatory map is based on future-conditions hydrology, including sea level rise.
- Credit is provided under Section 452.a if a community's stormwater program regulates runoff from future development.
- Credit is provided under Section 452.b for a community whose watershed master plan manages future peak flows so that they do not exceed present values.
- Credit is provided under Section 512.a, Steps 4 and 5, for flood hazard assessment and problem analysis that address areas likely to flood and flood problems that are likely to get worse in the future, including (1) changes in floodplain development and demographics, (2) development in the watershed, and (3) climate change or sea level rise.